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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No. 10/789,510

Applicant: Gabor Schmera

Filed: 2/27/2004

For: System and Method of Molecule Counting Using Fluctuation Enhanced Sensors

Examiner: Turk, Neil N.

Art Unit: 1797

23 February 2009

Commissioner of Patents
P. O. Box 1450
Alexandria, VA 22313-1450

EXAMINER INTERVIEW SUMMARY

Sir:

In accordance with MPEP 713.04, kindly add to the above-identified application file the following statement of the substance of the telephonic interview between J. Eric Anderson and Examiner Turk on 23 February 2009.

Statement of the Substance of the Telephonic Interview begins on page 2.

Statement of the Substance of the Telephonic Interview

On 23 February 2009, Mr. Anderson and Examiner Turk discussed the claims of the subject application over the telephone. Mr. Anderson authorized Examiner Turk to make a few changes to the claims in an Examiner's amendment. The changes to the claims discussed are shown in the following listing of the claims:

What is claimed is:

1. (Cancelled)
2. (Cancelled)

3. (Currently amended) A chemical sensor system comprising:

a surface acoustic wave (SAW) sensor comprising a primary surface having a total area and an active zone within the total area, and wherein the SAW sensor is ~~that produces~~ configured to produce an oscillatory output signal responsive to adsorption of molecules of a chemical analyte by ~~a primary~~ the active zone on the primary surface ~~of said sensor comprising at least one active zone~~;

~~said surface acoustic wave sensor measuring~~ a frequency fluctuation counter configured to measure a plurality of frequency fluctuations of said oscillatory output signal;

amplitude density means, coupled to said ~~measurement means~~ frequency fluctuation counter, for generating an amplitude density signal representative of the amplitude density of said plurality of frequency fluctuations; and

a pattern recognizer ~~receiving~~ configured to receive the amplitude density ~~input~~ signal, wherein the pattern recognizer is also configured to generate ~~for generating~~ an analyte output signal representative of a total number n of said adsorbed molecules if said amplitude density signal corresponds to a theoretical amplitude density function P(r,n) which is substantially represented by the equation:

$P(r,n) = \frac{n!}{r!(n-r)!} \cdot p^r \cdot (1-p)^{n-r}$, where n and r are nonnegative integers, $r \leq n$, n represents a theoretical total number of molecules on a surface of a virtual SAW sensor, r represents a theoretical number of molecules on an active zone of said virtual SAW sensor, and where p is substantially represented by: $p = \frac{\mu_{active}}{\mu_{total}}$, where μ_{total} is the total area of said surface and μ_{active} is the area of said active zone ~~function P(r,n)~~, wherein said active zone ~~is the area between at least two electrodes on said SAW device and~~ is used to measure an output signal and wherein said total area of said surface is the total area of said SAW device over which an acoustic wave is generated.

4. (Cancelled).

5. (Cancelled).

6. (Previously Presented) The chemical sensor system as in claim 3, wherein said primary surface comprises a diffusion barrier that restricts diffusion of said chemical analyte to said primary surface.

7. (Cancelled)

8. (Previously Presented) The chemical sensor system as in claim 3, wherein said chemical sensor further comprises a bandpass filter for selecting a single oscillatory mode.

9. (Cancelled).

10. (Previously Presented) The chemical sensor system as in claim 3, wherein said amplitude density means comprises means for generating an amplitude

density histogram of a measured time series of an output of said frequency fluctuation counter.

11. (Cancelled)
12. (Cancelled)
13. (Cancelled)
14. (Cancelled)
15. (Cancelled)
16. (Cancelled)

Respectfully Submitted,

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